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Education and Employment

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Promoting Girls' and Women's Education

Lessons from the Past

Rosemary Bellew
and
Elizabeth M. King

One way to increase female enrollment in schools is to lower the costs of education by providing culturally appropriate facilities, scholarships, and alternative schools that offer classes in the early morning or evening. Another is to train girls and women in growth sectors of the economy and to make strong recruitment and placement efforts.

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This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to assist the World Bank and developing countries in their efforts to incorporate females into the development process. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (58 pages, with figures and tables).

Many societies underinvest in girls' and women's education for three main reasons:

- High direct, indirect, and cultural costs.
- Too few private benefits.
- Parents' failure to consider the social benefits of education.

Research gives governments little guidance on how to raise demand for female education so Bellew and King examine what is known about which strategies worked, which failed, and which have produced mixed results or results that are difficult to interpret.

Strategies that have increased female enrollment are those that:

- Lower the costs of education by providing culturally appropriate facilities, scholarships, and alternative schools that offer classes in the early morning or evening.
- Train girls and women in growth sectors of the economy at the same time that they make strong recruitment and placement efforts.

Strategies that seem to have failed include those that distribute school uniforms and offer vocational training that is not directly linked to employment.

Too little information is available to assess the effectiveness of programmed learning, day care, home technologies, information campaigns, school meals, and the revamping of curricula and textbooks to introduce broader roles for women.

More research is needed on:

- The importance parents and girls attach to the *quality* of available education when making their schooling decisions.
- Girls' and women's participation in educational programs.
- Individual, family, community, and school factors that limit girls' and women's participation and achievement.

There should also be more experiments with different approaches and more evaluation of program outcomes.

TABLE OF CONTENTS

Figures

Tables

Boxes

Appendices

We also wish to acknowledge the contribution of Maureen .etronio who wrote most of the boxes for the paper.

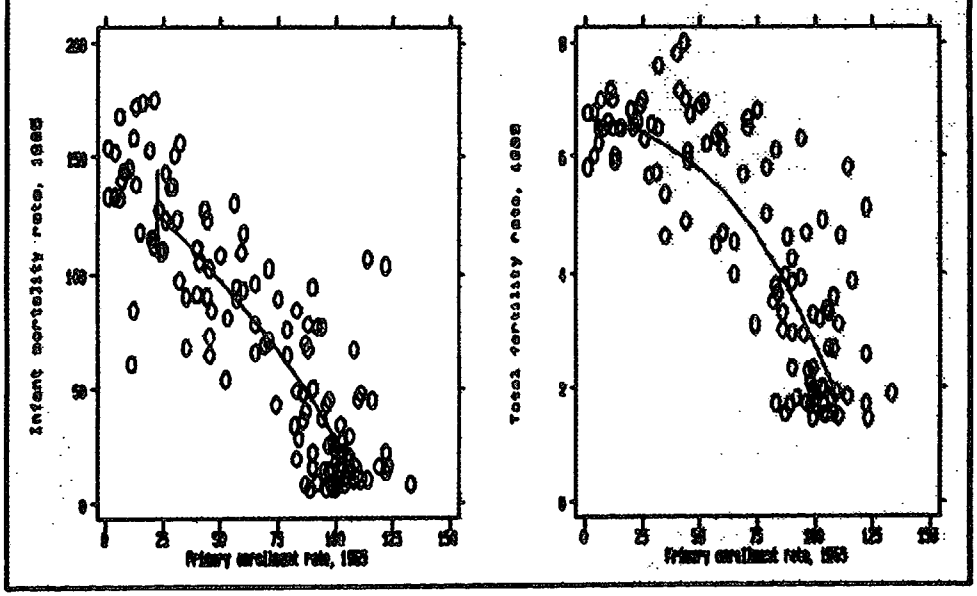
INTRODUCTION[1/]

Expanding education, especially basic education, has been an objective of education policy in developing countries over the past two decades. The reasons for this objective are clear. Basic education is often considered a right which nations have a responsibility to guarantee to each generation. And, the benefits to education are by now well established. The evidence is overwhelming that education raises the quality of life; it improves health and productivity in market and non-market work, increases individuals' access to paid employment, and often facilitates social and political participation.

The evidence is also clear that the total benefits to education multiply when schools open their doors to girls and women. In addition to being more productive in market work, educated women have smaller families, fewer of their children die in infancy, and the children who

Figure 1. Increasing female education reduces infant mortality and fertility

Source: Based on country data compiled for King and Hill (forthcoming).



1/ The benefits, barriers, and suggested strategies that are addressed in this paper were derived from a forthcoming book on these topics. See King and Hill (forthcoming).

survive are healthier and better educated. Educated women are also better equipped to enter the paid labor force which is critical to the survival of the many female headed households in developing countries.[2/] It is not surprising, then, that nations with higher levels of female school enrollment in the past today show higher levels of economic productivity, lower fertility, lower infant and maternal mortality, and longer life expectancy than countries that have not achieved as high enrollment levels for girls (Schultz 1989).

Today, many countries are reaping these benefits. As a result of past investments in education, most middle-income countries have achieved universal primary education (UPE)--that is, a gross enrollment rate of at least 100 percent--for girls and boys (Appendix Table 1).[3/] But, many low-income countries will not reap these benefits for decades to come. Only 6 of the 40 lowest income countries have attained UPE for girls and, in countries that have not reached UPE, the enrollment gap between girls and boys is substantial. Figure 2 illustrates this gap and shows that it has not narrowed greatly over time.

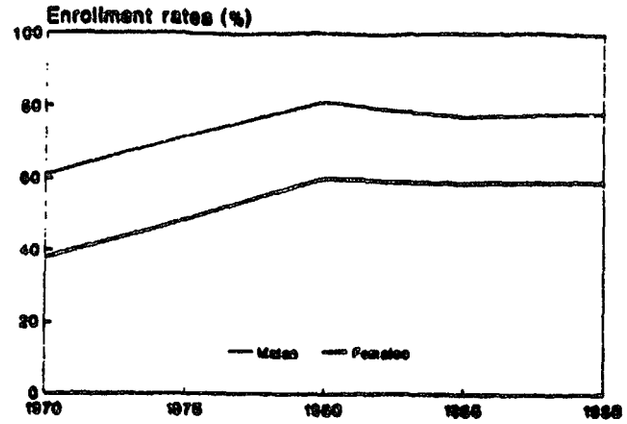
These gender differences in enrollment among low-income countries principally reflect lower enrollment rates for girls in African and South Asian countries and in some North African and Middle Eastern countries where girls are also more likely than boys to drop out of primary school. Although dropout rates vary considerably from country to country, on average, 9.6 percent of girls in low-income countries dropout of primary school compared to 8.2 percent of boys; in Africa, dropout rates for girls average 8.6 percent compared with 7.3 percent for boys; in North Africa and the Middle East 6.0

2/ In Jamaica, for example, 36 percent of all households are headed by women; in El Salvador 40 percent are headed by women (World Bank 1988a).

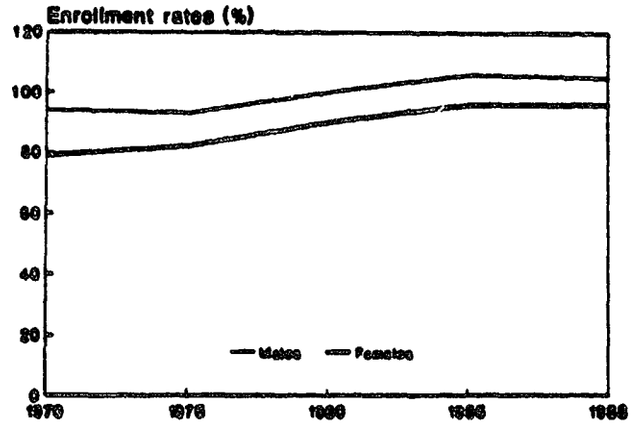
3/ Middle-income countries are defined by the World Bank as countries with per capita incomes under $500 U.S. (World Bank 1990a). Of 43 countries, 31 have achieved universal primary education for girls and boys.

Figure 2
Primary Gross Enrollment Rates

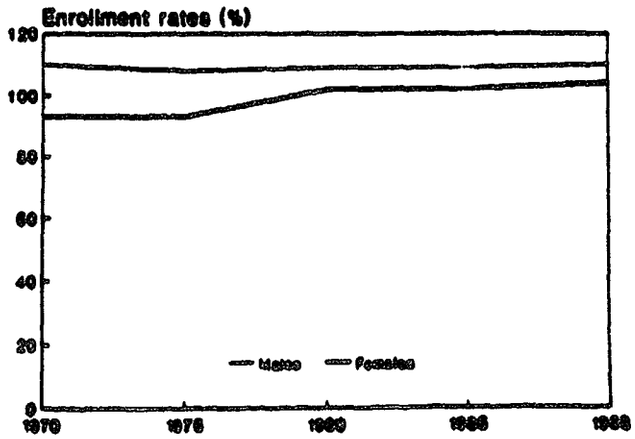
Low-Income Economies



Lower-Middle-Income Economies



Upper-Middle-Income Economies



percent of girls drop out compared with 4.3 percent of boys (Table 1). In contrast, in Latin American and Caribbean countries, and in Lesotho, Madagascar, the Congo, and the Philippines, primary school girls are less likely to drop out than boys (See also Appendix Table 2).

Table 1
Primary School Dropout Rates, 1988

	Girls	Boys
Low-income	9.6	8.2
Middle-income	6.1	5.9
Lower-middle-income	6.2	6.3
Upper-middle-income a/	5.7	4.1
Africa	8.6	7.3
Asia	4.0	4.1
North Africa & Middle East	6.0	4.3
Latin America	7.8	8.8

Source: Appendix Table 2.
a/ Data are available on only five countries in this group. Four of the five are African, North African and Middle-Eastern countries.

Gender differences in enrollment rates at the secondary level are even more pronounced than at the primary level. Although female enrollment has increased faster than male enrollment over the past decade, the gap in enrollment rates between them remains substantial in nearly every low- and lower-middle income country (Appendix Table 2). As a result of the higher dropout and lower primary and secondary school enrollment rates, girls and women in many developing countries attain fewer years of schooling than boys and men despite the benefits to their education.

Why do so many parents and societies underinvest in girls' and women's education? The answers are many and complex. Rising above the complexity, however, are three realities. First, absolute poverty undermines efforts to improve education in the world's poorest countries where parents secure their family's survival before educating either their sons or daughters. Second,

the private returns to women's education are often not large enough to offset the costs. Discrimination in the labor market lowers the private return to females' education, and in societies where women marry young and become part of their husbands' families and where sons are expected to sustain their parents when they age, parents gain less from investments in their daughters than they do from their sons. Third, education generates substantial social benefits that parents do not consider when making their own cost/benefit calculations. If financing were left entirely to parents, it is unlikely that they would invest in their daughters to the same extent that they would in their sons, and to the extent required by development goals. This argues, therefore, for special public efforts to promote female education.

Effective intervention requires that governments first make certain broad education policy choices. Should government efforts focus, for example, on basic education or on secondary or higher education? Should they target girls, or women who have missed out on school opportunities? It also requires a set of cost-effective strategies and appropriate targeting. Should strategies focus on expanding schools or improving the quality of those already out there? Should they include scholarships for girls or information campaigns? Should they by directed toward everyone or targeted toward particular communities or families?

Past research provides few answers to these questions, and few hard and fast rules to guide governments in their efforts; but it does suggest that where enrollment in primary school is low, efforts should be targeted at expanding complete primary schooling as opposed to secondary or higher education. Not only are the rates of return highest at the primary level, but under the best of circumstances, at least five to eight years of primary schooling are necessary to acquire the reading and math skills essential for operational literacy and numeracy (Lockheed and Verspoor 1990). Based on this information, governments would be wise to invest in basic education, in formal and nonformal school settings. In countries where all boys and girls are enrolled in primary school--such as many in Latin American and East Asia--interventions should be directed at reducing gender differentials in enrollment and attainment at the secondary and tertiary levels. Beyond these

directions, little can be said with much certainty, particularly about the most cost-effective measures to boost girls' attendance.

Motivated by the uncertainty, we set out to identify approaches undertaken by governments, non-governmental organizations, donor agencies and communities to raise girls' and women's attendance in educational programs. This paper discusses these approaches, examines the lessons learned from experience, and signals the conditions under which the strategies seem to work or fail. (See Table 2 for an overview of approaches discussed in the paper.) The reader may find conclusions that are not well supported by empirical analyses; others will seem impressionistic--and they are. Most initiatives have not been accompanied by evaluations that would permit strong conclusions about their effectiveness. Therefore, at this point in time, advancing females' education in certain settings requires proceeding with best guesses. It involves designing strategies based on what has worked well under similar circumstances and based on what theoretically might work. It requires experimentation and careful monitoring. We do not prescribe a single strategy for any country or group of countries. How governments, communities and donors approach the issue will depend on the country-specific context, including the existing supply of schools, prevailing cultural and social norms, families' incomes and productive activities, womens' opportunities for paid work, and the quality of education. With this in mind, we begin with the obvious.

Table 2
Summary of Interventions to Raise Female Enrollment

Past Approaches	Country	Description of Interventions reviewed	Year began
Increase school supply	Bhutan	Built "extended" primary school classrooms in rural areas (World Bank funding)	1988
	Egypt	Built primary schools in rural areas	1981
	Mali	Build and renovate school buildings	1989a/
	Yemen	Established vocational centers for women (?)	1987
Build appropriate school facilities	Bangladesh	Built primary schools and teacher training centers	1985
	Mali	Provided community schools with pedagogic support; in new WB project, medersas also to receive pedagogic materials	1989a/
	Kenya	Secularized curricula in Koranic schools to attract more students	1985
	Pakistan	Secularized curricula in mosques	1979
		Provide sanitation and water facilities in schools and build boundary walls (Sindh)	1990a/
Recruit female teachers	Nepal	Trained rural females with secondary education as school teachers; those without were trained to qualify	1971
	Pakistan	Recruited female teachers in rural areas and trained them there; provided female teacher residences	1984
	Somalia	Established teacher incentive systems	
	Yemen	Built separate urban primary teacher training institutes for women, and pilot institutes in rural areas to attract rural women	1975 1987
Lower cost of uniforms	Bangladesh	Distributed free uniforms to primary girls	1981
	Pakistan	Abolish required uniforms in rural areas	1990a/
Provide scholarships	Bangladesh	Offered scholarships to girls in secondary schools (USAID funding until 1988; World Bank)	1982
	Guatemala	Offered scholarships to girls in primary grades (USAID pilot funding; future World Bank funding)	1987
	India	Offered scholarships to girls in primary school (government funding)	
	Nepal	Offered scholarships to girls in primary school (government funding)	Early 80s
Establish day-care centers	China	Established worksite day-care centers and preschool centers, and sibling care at primary schools	Mid-80s
	Colombia	Built community-based centers ("Hogares de Bienestar Infantil")	1987
Adapt labor-saving home technologies	Burkina Faso	Distributed labor-saving machines to encourage nonformal education of women (UNESCO sponsored)	1967
	Nepal	Disseminated fuel efficient stoves	1977
Design flexible school schedules	Bangladesh	Introduced programmed instruction in selected rural schools	1980
	Colombia	Programmed learning in "escuelas nuevas"	1975
	El Salvador	Introduced program instruction	Late 80s
	Indonesia	Introduced multigrade teaching	Late 70s-
	Liberia	using self-taught learning materials	early 80s
	Philippines	taught learning materials	

Table 2 ... continued

Past Approaches	Country	Description of interventions reviewed	Year began
Build safety nets	Bangladesh	Built lower primary schools in rural areas; known as BRAC schools (funded by UNESCO and Norway)	1983
	India	Established nonformal evening schools for out-of-school youths (supported by government and UNICEF)	1979
Promote gender-neutral instruction	Bangladesh	Revised textbooks to improve perception of women's roles in family and society	1988
	China India Kenya	Same as above	1980s
Educating community	Mali	Launched media campaigns to advertise value of education of girls	1989a/
	Morocco	Developed materials and extension service promoting girls' education	1989a/
Delay childbearing	Guatemala	Used girls' scholarship program to reward avoidance of pregnancy	1987
Improve girls' nutrition	Jamaica	Provided school breakfast program	
Offer training in non-traditional occupations	Chile	Built vocational centers to train middle-level male and female technicians	1968
	Morocco	Established industrial and commercial training program for men and women	1979
	Tanzania	Established training centers near primary schools for unemployed females	1975
	Yemen	Built vocational training centers	1987
Alleviate poverty	Bangladesh	Established women's income-earning programs	1970s

Note: a/ Although the project has been launched, the specific intervention pertaining to girls or women may not have started yet.

PAST APPROACHES

Improving access to schools

Students cannot attend school when places are in short supply or when schools are located far from home. Recognizing this, planners have developed various low-cost expansion strategies to expand access and bring schooling closer to home. These efforts have resulted in experimentation with multigrade classrooms, double-shifting, and with feeder and satellite schools at the primary level (See Box 1), with radio education and correspondence courses at the postprimary levels, and with literacy programs for adults. Educational opportunities for females have also been increased by eliminating discriminatory admissions practices and instituting quotas that reserve places for them in educational programs.

Box 1. Too Far to Walk: Bhutan's Extended Classrooms

The land is rugged. Rivers flow from tall mountains to valleys covered with dense forests. Villages are remote and widely scattered. School facilities are scarce, overcrowded and shabby. Teachers are in short supply.

If children go to school at all, they must walk long distances or find boarding accommodations near one of Bhutan's 147 primary schools. Because Bhutan has never had a formal census, enrollment rates are estimates; they suggest that females comprise only thirty-five percent of the twenty percent enrollment rate in primary schools.

To increase female participation in primary school, the government of Bhutan is planning to provide multi-grade education from the Pre-Primary level through Class III via an extended classroom model (ECR). ECRs, or lower primary schools, will be clustered around Development Service Center Schools (DSC) which will have boarding facilities for children in Classes IV -VI. Children who successfully pass Class III will feed into the DSCs. The government will recruit and pay for teachers in communities that can provide ECR facilities and assure a minimum of 100 students. Bhutan believes ECRs will increase female enrollment by avoiding the need for boarding schools at the lower grades. Dormitories at the upper primary levels will motivate parents to send daughters to school by arresting fears about prepubescent girls travelling long distances, and by insuring that children who complete primary school will have the opportunity to continue their education.

Sources: World Bank (1988b), World Bank (1989b).

These access expansion strategies are necessary to increase girls' enrollment, but one lesson we learn from the supply-side measures is that they are not always sufficient. When the demand for girls' education is low, families will not send their daughters to school, even if one is available. The following experiences of Egypt, Mali and Yemen illustrate this.

Egypt, in its efforts to expand primary education to rural children, built 400 new primary schools in rural areas between 1981 and 1987. The increased availability of spaces permitted more children to enroll, and the proportion of school-age girls enrolled increased from 56 to 74 percent; boys' enrollment increased from 94 to 100 percent. Evaluators of the expansion initiative concluded that the existing demand for girls' education had already been met, and that additional school construction in the original sites would do little to attract the girls still out of school (Robinson and others 1987).

A similar situation occurred in the Koulikoro region of Mali where a school expansion program was launched and where small multigrade schools are common. According to a report, overall enrollment actually declined by 1.5 percent a year between 1982 and 1986 despite a 3 percent increase in the number of schools, a 14 percent expansion in the number of classes, and a 21 percent rise in the number of teachers (Haughton, 1986). Female enrollment fell faster--by 2.6 percent each year in that period (Ministry of Education, Mali, n.d.). The report concluded:

> There is probably relatively little unsatisfied demand for public schooling, as it currently exists, in this region. In that case an upper limit on net public school enrollments of about a quarter can be expected in rural areas if the only policy pursued is expansion in the number of schools (Haughton 1986).

The inadequacy of expanding places in educational programs as a strategy to raise female enrollment is also evident in the expansion of vocational programs. In the People's Democratic Republic of Yemen, the government accepted, as policy, a commitment to increase the role of women in economic development. This commitment, coupled with a foreseen critical shortage of

skilled technicians and clerical workers, led the government to establish a network of 14 Vocational Technical Centers to meet the needs of the industrial, agricultural and commercial sectors. The project provided for 15, 20 and 75 percent participation of female students in the industrial, agricultural, and commercial centers, respectively. The outcome was disappointing. By 1984, women comprised only four percent of commercial students (7 out of 166) and zero percent of agricultural and industrial students.

Two project evaluations identified several reasons for the low female attendance. They pointed to the same conclusion: project designers did not take into consideration the preferences of Yemeni girls and their families, cultural norms, nor the economy. Females preferred employment in manufacturing and fishing which provided reasonable incomes without a diploma, and those who did attend secondary or post-secondary school did not work in agriculture or industry unless it was in the Ministry in Aden. Parents outside Aden also opposed co-education while early marriage prevented many girls from continuing in school (UNESCO 1985a, World Bank 1987c).

These experiences demonstrate that simply expanding educational programs may be insufficient to increase girls' enrollment. For programs to be fully utilized, the demand for education must emanate from families and the community. Where parents are concerned about the physical and moral safety of their daughters, where the direct and opportunity costs of attendance are too high, and where the benefits to education too few, school expansion policies will only be effective if they are accompanied by policies that lower the cultural, direct, or opportunity costs of education and/or raise the benefits.

Building culturally appropriate facilities

Schools must conform to communities' cultural standards, especially the standards of propriety to which females are held. In parts of North Africa, the Middle East, East and South Asia and Africa's Sahelian region, girls' and young womens' activities are governed by social practices that restrict their

presence in public places and their interaction with males. In these locations, parents may insist that males and females be separated and they may be more concerned with the availability of closed latrines than they are with the supply of desks and chairs.[4/] Pakistan has responded to these concerns by building boundary walls around girls' schools (World Bank 1987a, 1987b). Bangladesh has responded by providing sanitary facilities which has had a positive influence on community, teacher and student attitudes toward school and addressed an important parental objection to girls' attendance (World Bank 1985a).

Some countries have also responded to parents' concerns about propriety by supporting the expansion of Koranic schools and actively recruiting and training female teachers. The evidence suggests that low quality programs may limit the success of Koranic schools and that increasing the number of female teachers is a promising strategy to raise female enrollment.

Koranic schools are under the control and supervision of the Imam, a revered member of the community. They have strong traditional roots, and provide a proper and sheltered environment and a religious education that is more acceptable to "traditional" parents. Historically, Koranic (or mosque) schools offered instruction only in the Koran and Islamiya. Mali, Pakistan, Bangladesh, and Kenya have supported the accreditation of Koranic schools by introducing the primary school curriculum and a trained teacher to supplement religious education.[5/] Mauritania experimented with introducing math and reading in pilot Koranic schools via radio broadcasts and by providing learning materials and supervisory support from the inspectorate (World Bank 1983a). The Gambian government also hopes to improve female school attendance by raising the quality of education in Koranic schools (madressas). The government is working with Muslim organizations to establish a school

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4/ A survey of 2,000 Pakistani parents reported that they did not mind the absence of desks and chairs in girls' schools, but two-thirds criticized the absence of latrines (Culbertson and others 1986).

5/ See Haughton 1986; World Bank 1989d; Harley 1979; Warwick, Reimers, and McGinn 1989; World Bank 1987b; UNESCO 1985b; Eisenmon and Wasi 1987.

calendar, introduce a broader curriculum, and provide better trained teachers (World Bank 1990b).

The results of these efforts are mixed. In recent years, girls' enrollment in Mali's Koranic schools (medersas) has grown rapidly. Medersas currently enroll 23 percent of all primary students, and girls account for 47 percent of them, compared to 32 percent of enrollment in government primary schools (World Bank 1989d). In Pakistan, parents have not responded as enthusiastically as expected to their government's initiative to expand mosque schools. In 1986, girls constituted only 30 percent of students in those schools compared to 32 percent in government primary schools. Supporters of the expansion say that mosque schools provide places that could not ordinarily be provided by public schools. However, others question the benefits, claiming that the quality of education provided in mosque schools is lower than that provided in government primary schools (See Box 2).

Box 2. Is "Clean and Safe" Enough?: Pakistan's Mosque Schools

> There is no light, no fan. It is very depressing and dreary and suffocating ... There is no toilet, no sweeper in any of the schools. When they need a latrine, the girls have to go home during school hours, wasting a considerable amount of time.
>
> Headmistress Pakistan Primary School

In grim terms a Pakistan headmistress describes her school. Twenty nine thousand other schools are shelterless; sixteen thousand have only one room. Some are so far away that children must walk four kilometers to get to them. Worse, 67 percent of the teachers are male. These are serious drawbacks to parents who think it is not "respectable" for their daughters to attend school if there is no female teacher, if they must walk alone, if there are no boundary walls or latrines.

School conditions, coupled with the overall low status accorded women, conspire to limit girls' educational opportunities. In 1985/86, the enrollment rate of girls was only thirty-two percent, the eight lowest rate in the world. To encourage female enrollment, the Prime Minister in 1986 introduced a Five Point Program for Economic and Social Development which called for the opening of 26,700 mosque schools. The Ministry of Education described the features of the mosque school in the following statement:

> The Mosque will be used as a place of learning for children, for out of school youth and for adults. In addition to Islamiyat, the children will study the modern curricula for primary school ... In order to teach modern subjects, a primary school teacher will be appointed in such school [sic] who in cooperation with the Pesh Imam will teach children and adults at hours convenient to the community. Free books and teaching aids would [sic] be supplied to children going to mosque schools. This will ensure rational utilization of the mosque and re-establish its traditional role of spreading the light of knowledge (Warwick and others 1989).

The Ministry believed parents would enroll daughters in institutions that affirmed cultural traditions and had long provided religious instruction to both boys and girls. The imam, a respected religious figure in the community, would allay parents fears about sending daughters to classes taught by strange men. Sheltered, clean facilities with fresh water, and within easy walking distance would provide "respectable" environments for girls still subject to female seclusion.

Since 1985 some 26,700 mosque schools providing education up to grade three have been opened. Opinions regarding their success are mixed. While by June of 1986 they had succeeded in enrolling 630,000 pupils, only 30 percent were girls, a slightly smaller percentage than those enrolled in government schools. A 1989 study of mosque schools in the Sind province revealed an even smaller percentage of girls enrolled (26.4 percent).

Of more concern are questions about the quality of education provided. A study of mosque schools by the Harvard Institute of International Development, cites a district official who claims "Imams are poor teachers because they are illiterate (Warwick and others 1989)." The report goes on to say:

> Mosque schools can be rated high on financial efficiency, cultural acceptability, and quantitative success, low on the capability of implementors and doubtful on the quality of schooling provided (Warwick, p. 26).

"Clean and safe" may be enough to encourage parents to enroll daughters they might not have enrolled otherwise, but is it enough?

Sources: Teacher's Resource Center (1989); World Bank (1988c); Warwick, Reimers, and McGinn (1989); World Bank (1989c).

Recruiting female teachers

Interviews and anecdotal evidence in some countries suggest that increasing the number of female teachers will boost girls' enrollment. Female teachers are in short supply, however, especially in African countries. These shortages arise partly from the requirements needed for admission into teacher training programs. Though the requirements are minimal--sometimes as little as an eighth-grade diploma--the majority of women still do not possess them. The predominantly urban location of teacher training facilities also hinders the attendance of rural girls. Therefore, women who do become teachers are more likely to be urban residents who are often unwilling to accept posts in rural areas where living and working conditions are less desirable; where housing and medical facilities are inadequate; where good quality schools are lacking; where food and clothing supplies may be limited; where piped water, electricity, and modern household technologies are absent; and where single women may find it difficult to meet desirable mates (Ankrah-Dove 1982; Seethmaru and Ushadevi 1985).

To enlarge the pool of female teachers, some countries have modified their uniform salary schedules by providing compensating differentials in the form of housing subsidies and free travel to teachers' home towns (Dove 1986;

Murnane 1987).[6/] Others have deployed recruiters to rural areas. Neither compensating differentials nor local recruitment alone, however, substantially increased the number of female teachers in Pakistan and Somalia.

Pakistan attempted to attract female teachers by building residences in rural areas where several young women could live together. The residences were unpopular except in Baluchistan where they were occupied by married couples. In the other provinces, they remained unoccupied because socio-cultural attitudes discriminate against single women living alone (World Bank 1987a). Somalia attempted to recruit rural girls to teacher training programs hoping that they would want to teach in rural areas after their training. Because the only teacher training institute in the country was located in the capital city of Mogadishu, girls had either to travel long distances daily or to move closer to the city. Rural parents were also reluctant to completely release their daughters from domestic responsibilities and refused to send them. Therefore, women who did attend the training program were from areas surrounding Mogadishu, a city that already had a surplus of teachers (USAID 1989).

These strategies implicitly assumed a certain degree of mobility which girls and women did not have. Pakistan addressed this mobility constraint by introducing a teacher training program that combined recruiting girls from rural areas and training them there, close to their homes. The program began in the Punjab province in 1984 where the government introduced primary teacher training in units attached to local secondary schools. Of the 90 Primary Teacher Certificate units started, 80 were exclusively for women. The units were instrumental in raising the proportion of female teachers. In 1985-86, 85 percent of the teachers in training at the units were female (5,040 total), compared to only 19 percent at the normal school and 38 percent at the Government Colleges for Elementary Teachers. In that year alone, the units trained 67 percent of all new female teachers (World Bank 1987b). Locating

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6/ Other countries may discriminate in favor of urban teachers, though. In Cameroon and Pakistan, for example, urban teachers are paid a salary premium as compensation for the higher cost of living in a city.

the training close to home not only weakened parental opposition but, by eliminating the need for boarding facilities, it was also less costly than the conventional program.[7/]

Although local recruitment and local training appear to be effective at increasing the supply of female teachers in rural areas, lowering minimum educational qualifications, actively recruiting girls from rural areas, subsidizing their secondary and teacher education, as well as providing girls with the option of being posted in a school near home, are features of a coherent strategy. Nepal successfully implemented such a program for rural female teachers (See Box 3). A similar program was introduced in the Yemen Arab Republic in 1987 where three teacher training centers were set up as temporary sections of existing post-primary schools to provide teacher training to rural girls with a sixth grade education. In this program, buses transport participants to and from each center, and each trainee receives a stipend. Upon completion of the three year course, the new teachers are deployed in local schools and the program moves to another area. The first course was attended by 80 rural girls and only two had dropped out after the first two years of classroom instruction.[8/]

7/ The cost per trainee in the home-based program, amounted only to about Rs. 14,000 (or Rs. 19,000 with central office costs) in 1988, compared with Rs. 23,000 in the conventional program (Government of Pakistan, undated).

8/ The final year is spent on supervised teaching.

Box 3. Recruiting Female Teachers in Nepal

Posters, booklets, newspapers and radio programs deluged rural villages with information targeted at socially and economically disadvantaged families in an effort to motivate them to take advantage of a Primary Teacher Training Program in Nepal. The program aimed to promote equal educational opportunity for women and men and identified women as key agents in increasing access to education. Its major strategy was to train groups of rural girls as primary school teachers. Hostels were constructed to make it possible for girls from conservative families in remote areas to enroll in the program.

The program functioned on two levels. At the first level, girls with Secondary School Leaving Certificates, were trained at campuses attached to Tribhuvan University. Hostel accommodations were provided, along with a monthly stipend, travel expenses, medical care materials and tutorial assistance. The year-long program offered courses in Professional Education, Methods, and General Education. To relate studies to women's roles in community life, supplementary programs in health, nutrition and gardening were provided at the hostels. Because the teacher training centers were part of Tribhuvan University, replication was possible without major structural changes. The project was expanded from its initial site at the Polchara Campus in 1971, to Dhankuta in 1973, Nepaljung in 1976, and Jumla in 1978.

At the second level, girls who had not attained more than a tenth-grade education were lodged at feeder hostels and sent to nearby secondary schools where they could acquire the skills that would qualify them for entry into the teacher training program. They too were provided with monthly stipends, travel expenses, medical benefits and tutorial assistance.

Under a directive from the Ministry of Education, District Education Officers were instructed to give priority to the women who had graduated from the teacher training program in assignments to teaching posts in primary schools. Follow up workshops at campus sites provided monitoring and "refresher" courses for past students.

Between 1971 and 1981, the program trained 1,193 girls. The share of female teachers increased from 3 percent in 1972 to 9.8 percent in 1980 with thirty-five percent of the new teachers employed coming from the four small campus programs. In the same period, primary school enrollment increased from 16.8 percent to 28 percent. The combination of active recruitment, dual entry levels, subsidization, and home teaching post prospects was instrumental in adding females to Nepal's teaching force.

Source: UNDP (1982).

Lowering direct costs

Location and propriety are not the only things parents consider when deciding if they should school their daughters. The costs of schooling also influence parents' schooling decisions. Although public schooling often implies free or subsidized tuition, parents still incur the costs of transportation, uniforms, books and school supplies, and schools may also request cash or in-kind donations. These expenses can be prohibitive to poor parents, especially at the secondary level where tuition is often high. Bangladesh and Pakistan have responded to these cost constraints by lowering

the cost of uniforms; Bangladesh and Guatemala have responded by introducing scholarship programs for girls.

Lowering the cost of uniforms. Providing free uniforms did not substantially raise girls' enrollment in Bangladesh, however. Beginning in 1981, uniforms were to be distributed to 500,000 girls aged 6 to 10.[2/] The intended recipients were daughters of landless agricultural workers, fishermen, and other low-income groups. As it turned out, only 150,000 to 200,000 girls received school uniforms. Anecdotal evidence suggests that girls' enrollment increased slightly, but the scheme was discontinued after only two years because manufacturers were unable to meet quality standards, principals distributed uniforms to pupils who were ineligible, and wealthier parents withdrew their daughters from school because they had been excluded from the program (UNESCO 1989; World Bank 1980a, 1980b).

In the Sind region of Pakistan, where school uniforms are compulsory, a different approach to the problem is planned. Instead of providing free uniforms, the region will experiment with abolishing the required uniforms in rural areas (World Bank 1990c). This strategy is less costly and more easily administered, but whether the experiment will reduce the direct costs enough to raise girls' enrollment remains to be seen.

Providing scholarships. Bangladesh has had greater success with its scholarship program for secondary school girls (classes 6-8) than it had with its free uniform program. The scholarship program was established in 1982 by the Bangladesh Association for Community Education, a local non-profit organization. By the beginning of the 1988 school year, 20,085 girls had benefitted from the program, and the benefits were multiple (See Box 4). Due to the encouraging results of the project, the government announced in early 1990 that it would consider waiving all fees for girls during the first three

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2/ This represents 10 percent of all girls in this age group. Only 54 percent of school-age girls were enrolled at that time. The project was funded by the World Bank, UNICEF, and bilateral donor agencies.

years of secondary school and would consider providing scholarships to girls in the higher grades.

Assessments of Guatemala' scholarship program for primary school girls are equally encouraging. This program, modeled after the Bangladesh scholarship program, was piloted in the Indian antiplano where only 53 percent of school-aged girls attend primary school and only 17 percent complete the cycle. It began in 1987 with one village and 50 scholarship girls, and later expanded to 12 villages. By 1988, the families of 600 girls between the ages of 7 and 15, most of whom were enrolled in grades three, four and five, had received a payment of 15 quetzales (US$4) a month for each daughter who did not become pregnant and who attended classes at least 75 percent of the time.[10/] Since parents paid no tuition and books were provided free in schools, the monthly scholarship payment partially compensated parents for other school-related expenses and for the loss of their daughter's time. The project was so successful in retaining girls in school that over 90 percent of the scholarship girls completed the year (Ministry of Education, Guatemala, 1989). The government now plans to fund 550 new scholarships for 11 additional communities.

10/ The project is administered by a local NGO, Guatemalteca de Educacion Sexual (AGES). A village woman "promoter" verifies attendance prior to paying parents each month.

Box 4. My Daughter Won't Need a Dowry:
The Bangladesh Female Secondary Education Scholarship Program

Anjuman Ara received a scholarship to attend Chitoshi High school. She was thirteen years old. She has nine brothers and sisters. Her father completed primary school and is a rice farmer; her mother is illiterate. Her friend, Majeda, was already married and expecting a baby. In rural poor Sharasti upazila, Comilla District Bangladesh, Majeda was the rule rather than the exception. She, unlike her brothers, was an economic burden to her family; at fourteen, she was married and shipped to her in-laws.

Given parental attitudes about daughters, it is not surprising that the 1981 census reported the average age of marriage to be 16.8 years for females as compared to 23.9 years for males and that only 4.7 percent of females had some secondary education as compared to 10.6 percent for males. This information is even less surprising in a country where the primary reason for not sending children to school is poverty, where fewer than two percent of secondary schools are government operated and where, in addition to tuition, parents must bear the costs of transportation, books, stationery supplies, uniforms, admission fees, exam fees, poor fund and snacks. No wonder Majeda's family was anxious to ship her off to in-laws where she could fulfill her role as obedient wife and fertile mother. Majeda can be expected to bear seven children, contributing to an alarming three percent annual rate of population growth.

In an effort to curb that growth, the Bangladesh Association for Community Education (BACE), piloted the female Secondary Education Scholarship Project in January of 1982. Sparked by population literature documenting the positive effect of secondary education on decreasing fertility, the project's aim was to encourage girls to enter and continue secondary school, thereby delaying marriage and increasing contraceptive use.

Initially all female students in grades six through ten who lived in the Sharasti upazila were eligible for the scholarships which reduced tuition by half. In January of 1985 the project was extended to the Gopalganj upazila and, in the same year, a selection criteria was introduced that limited scholarships to girls from families who earned less than 1,200 taka ($47.00) a month. The selection criteria proved to be problematic insofar as field workers had difficulty finding a sufficient number of girls who came from families earning less than the cutoff income; staff was burdened with reviewing and verifying applications; and mid-level but influential members of the community, whose daughters had previously qualified for scholarships, were antagonized. Notwithstanding the negative impact of the selection criteria, the overall success of the project resulted in its expansion to four additional upazilas. By September of 1988, 20,085 women had benefited from the program. Anjuman Ara was one of them.

As a result of her experience, Anjuman says she won't get married before twenty. She'll have only two children and she'll use birth control pills. Anjuman and other scholarship girls have increased the percentage of female enrollment in project area secondary schools from 27.3 percent before the project began, a figure similar to the national average, to 43.5 percent in 1987, more than double the national average. The secondary school female drop-out rate in the project area also declined from 14.7 percent before the project began to 3.5 percent in 1987. Anjuman and her friends encourage their sisters to attend school and so, primary school enrollment is up as well. Anjuman attended school regularly in accordance with scholarship provisions mandating seventy-five percent attendance. She did well in English, Bengali, Religion, Social Studies and Science. She also learned about banking and savings through managing the scholarship account the project set up in her name; twice a month, accompanied by a teacher, Anjuman could go to the local bank and withdraw her scholarship money. Anjuman, in fact, wants to be a banker. Anjuman's additional and timely tuition payments improved the status of the school. It now has a toilet and money for equipment and supplies. Knowing they will receive regular salaries, more qualified teachers have come to the high school, stabilizing a once transient staff.

And how does Anjuman's family feel about all this? Witness her mother's response:

> I could not give education to my elder daughter who was married while in class 3. I had to pay dowry. Thanks to the scholarship,... I received many offers of marriage and could pick and choose. None demanded dowry. Some even wanted to bear my expenses. I could marry my daughter to a household which is socially superior to mine. She visits me more often than my elder daughter and brings me presents. Evidently my younger daughter is happier than my elder daughter to whom I could not give proper education.

At a cost of $44.43 a year, the project transformed Anjuman Ara from family liability to family asset.

Sources: Ather (1984), Martin (1985), Thein (1988).

Government-sponsored scholarship programs were also implemented in India and Nepal, but little is known about their impact (UNESCO 1986). In the early 1980s, Nepal pilot tested a scholarship program in two of the poorest rural areas. For three years, all girls who attended primary school received a small sum of five rupees per month. Although its importance to the cash-poor parents was never evaluated, data on girls' enrollment suggest that the program did not increase the proportion of girls attending school. However, those who came did stay in school longer. Whether this was the only positive outcome of the program is unknown; nevertheless, the government is willing to invest additional resources in a scholarship program. It recently budgeted a program whereby five percent of all girls in every district would receive a scholarship (Butterworth 1989).

The experiences of Bangladesh and Guatemala with scholarship programs are encouraging, however the use of scholarship programs as a strategy to boost girls' enrollment raises several questions that only country specific research and implementation experience can answer. For example, is a scholarship program financially sustainable for the period of time or coverage necessary for it to have an impact? Can a country afford to support a growing number of female students even if the cost per student is low? Who should receive scholarships? What is the appropriate amount of the award--should it

cover only tuition or should it include also other school-related expenses? For how many years should they receive scholarships? Should awards be given more selectively over time? What is the most cost-effective targeting approach? Answers to these questions require an understanding of the level of demand for girls' education and the resources households and government are willing to allocate for it.

Lowering opportunity costs

The resources that households are willing to allocate for girls' education include not only cash outlays but also the girls' time. Women in developing countries spend large amounts of time performing household chores. Girls often share this work with their mothers; they care for siblings, prepare meals, carry water and firewood, or earn an income from outside jobs. Therefore, it may be necessary to lower the opportunity cost of schooling to increase girls' participation. There are at least four ways to lower this cost.

First, scholarship programs can ease the barrier high opportunity costs create by offering monetary compensation to parents for the loss of their daughters' time. Second, allowing girls to bring younger siblings to school, establishing day-care centers near school buildings, or introducing simple technologies can lower the amount of time girls spend at work. Third, the formal school schedule and instructional time can be made more flexible and consistent with girls' work schedules. Fourth, alternative or "safety net" schools can provide schooling opportunities at times during the day that girls can attend. These four approaches are far from exhaustive, but each has been implemented with varying degrees of success.

Establishing day-care centers. Colombia and China are actively expanding day-care in communities, at schools and at worksites. In Colombia, where one-fifth of the poorest households are headed by single mothers, and 44 percent of poor children aged 7-11 do not attend school, the community day-care program -- Hogares de Bienestar Infantil -- has freed many girls and

women to attend school or join the workforce. The community-based centers were first established in 1987. They are located in poor neighborhoods and serve about 400,000 children under the age of seven. At the centers, children are provided with 60 percent of their daily nutritional requirements and are supervised by "community" mothers, selected by women in the community. The community mothers are trained in nutrition, health, hygiene, and recreation, are paid a salary and receive assistance in obtaining home improvement loans. By 1992, Hogares de Bienestar Infantill hopes to reach 1.5 million children.

China, in its efforts to increase female enrollment, has established day-care centers at schools and worksites. In Ghansu province, for example, girls in 20 to 30 schools are allowed to bring their younger siblings to class, and worksite day-care centers for employed mothers have improved girls' enrollment in urban areas (Coletta and Sutton 1989). China has also expanded preschools which not only relieve girls from child care during the day but also provide an educational advantage for the younger siblings (Lockheed and Verspoor 1990).

Modifying home technologies. In many cases, simple improvements in home production technology can rescue hours of time, time that could be spent in school. In the hills of Nepal, for example, where deforestation has resulted in scarce wood supply, women walk for miles, sometimes for whole days, into the forest searching for leaves, branches, and twigs for heating and cooking. One hill woman of the Magar ethnic group says:

> Once it wasn't difficult to find wood on the ground. But now there is not even enough left over to fill one headload [35 pounds], unless you walk for miles and miles... As it is now, I must bring my daughter to help collect fuel and fodder, so she often skips school to help me... If fuel gets even more scarce, I will have to take my daughter out of school completely so she can help me with my other tasks... The better woods are getting much scarcer. I must collect other species that burn poorly... Some woods make my eyes burn and give the rice a bitter taste my husband can hardly stand (Molnar 1987, p.4).

So, the government of Nepal disseminated fuel efficient, smokeless, wood-burning stoves to 15,000 Nepali families as part of a 1977 Forest Act, designed to check deforestation, improve the forest cover, and increase the amount of fuel, fodder and timber available for subsistence. Forest department staff trained female "stove promoters" who, in turn, taught village women how to use the stoves, and how to conserve fuel. A study of families using the stove found an average wood savings of 28 percent, reducing the haul by about 2,000 pounds of wood per female a year (Molnar 1987).

The introduction of labor-saving technologies may be sound a policy in some settings, but it may not guarantee greater school attendance. Even when the technologies are affordable and appropriate, i.e. simple, adaptable to the conditions of the community, and easily maintained, factors other than time may prevent schooling. In Burkina Faso, for example, a nonformal education program for women, initiated in 1967, introduced mechanical grain mills, accessible water wells, and carts for hauling wood in villages located in three geographical zones (McSweeney and Freedman 1980). The labor-saving technologies did not boost girls' enrollment in the project areas, probably because the schools were still remote. They did, however, lower the amount of time women needed for certain chores, but instead of attending literacy classes with the time saved, women used the time for other work -- like preparing better meals or weaving.

Adopting flexible school schedules. Programmed instruction or programmed learning is often advocated as a way to make formal programs more responsive to children's work schedules, to equalize the quality of instruction across children, and to lower the penalty for absenteeism. It is also a low-cost way of expanding school places because it facilitates multigrade teaching. With programmed instruction, the curriculum is organized in sequential units so that students can learn at their own pace.

The Philippines, Indonesia and Bangladesh (Project Impact), and Liberia (Improved Efficiency of Learning), Colombia and El Salvador (Escuela Nueva) have experimented with programmed learning. Despite the rational underpinnings of these programs, their outcomes suggest that programmed

learning may be disadvantageous for girls when learning materials require more individual attention from teachers and when additional homework time is required. Bangladesh and Liberia illustrate the problem.

In 1980, Bangladesh introduced programmed instruction under Project Impact in 18 rural schools, with plans to extend it to 300 schools.[11] In Liberia, multigrade teaching and learning was introduced in five schools in 1979 and was expanded to 15 schools in 1984 under the Improved Efficiency of Learning (IEL) project. Both programs introduced self-taught learning materials organized into modules; Project Impact relied on teachers and students in grades 3 to 5 to guide younger students through their lessons.[12]

The outcomes of the two projects were generally unfavorable. In Bangladesh, the program neither increased enrollment nor reduced dropout rates. Despite government efforts to elicit support for the program through home visits by district education officers, parents were not convinced that older students could properly direct the learning of their children. The project did not make learning less teacher-dependent as planned because the instructional modules, though intended to be self-learning, were not. They required the supervision of a teacher or literate parent; both were in short supply.

The results in Liberia were equally discouraging. An evaluation of the project compared gender differences among third, fourth, and fifth grade students in Math and English achievement in the IEL schools to those found among students attending conventional schools and those attending schools that participated in a textbook distribution project. The study found that,

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11/ The expansion was assisted under the World Bank's Second Primary Education Project (World Bank 1985a).

12/ In the IEL project, teachers instruct students in groups of 15 in grades one to three. Children then break into groups of five for peer practice sessions to ensure content mastery. In grades four to six, learning takes place primarily in peer groups of 5 to 8 children and, at times, there are opportunities for independent self-learning.

although IEL students scored higher than either of the comparison groups,[13] gender differences were greatest in the IEL schools and least in the schools that received textbooks. A possible explanation for this is:

> The improved opportunity to learn is paralleled by increased demands on students, particularly in terms of study time to complete assignments. In Liberia, as in many developing countries, numerous demands are placed on daughters. These expectations may have limited their ability to take full advantage of the enriched learning environment (Boothroyd and Chapman 1987).

Colombia's escuelas nuevas seem to have been more successful, perhaps because they are more accommodating of children's work schedules, or perhaps they are less teacher dependent and more easily allow self-instruction, thereby penalizing students less for absenteeism. It may also be that programmed instruction is more effective when parents themselves are literate -- adult literacy in Colombia is six times higher than in Bangladesh and 2.5 times higher than in Liberia. Considering the reported success of Colombia's escuelas nuevas, investigating the conditions under which programmed instruction benefits girls is an area that merits further research (See Box 5).

13/ They scored 13.5 percent higher in math, and 5.5 percent higher in English.

Box 5. Work Today, Study Tomorrow: Colombia's Escuela Nueva

In a remote village, a young girl wets down the mud floors of her hut. Her parents are in the fields harvesting grain. A baby cries. The girl drops her pail and lifts the infant from his mat. This young girl, like so many others in developing countries, will not make it to school today. The school schedule interferes with chores--chores that are critical to her family's survival. When she does get to school, she may be far behind her classmates. Faced with retention, she is likely to drop-out.

For girls who do not have the leisure to spend six hours in school every day, Colombia's Escuela Nueva program offers hope. Conceived as a way to provide a full five year primary education to rural areas where small enrollments and limited resources negated conventional one teacher/one grade classrooms, the program was officially launched in 1976; by July of 1989, it was operating in 15,000 rural schools. Not only has the Escuela Nueva increased the relevance of primary education in poor rural communities, it has improved student achievement, enhanced girls' self-esteem and reduced drop-out and repeater rates.

Based on the principles of multi-grade teaching and flexible promotion, the Escuela Nueva presupposes student absences during periods of agricultural activities. It allows students to resume their studies after such absences through the use of semi-programmed materials arranged in sequential learning units. To make learning relevant, the curriculum content is rural oriented and readily adapted to the circumstances of a particular community. It promotes problem solving rather than rote learning as students apply what they study to the home and the community. "Resource corners" allow students to work alone or in small groups on assignments appropriate to their grade and stage of progress. A hundred book library provides resource material to encourage a project approach to learning. With the assistance of popularly elected student "leaders," the teacher is able to handle up to five grades simultaneously. And the student is able to care for her brothers and sisters one day, and learn better ways of doing it the next.

Sources: World Bank (1988d), World Bank (1982).

Building safety nets. Nonformal programs offered before or at the end of the working day provide an alternative for children who are unable to attend day school. Although morning or evening school may not be an ideal approach to raise girls' levels of education, it is one strategy that has worked well in India and Bangladesh.

India's nonformal evening education program aimed to bring school dropouts back into the primary education mainstream and to give those who had never attended a chance to enroll. Evening classes for youths aged 9 to 14 were staffed by teachers drawn from and trained in the local community. Two years into the program, 1,431 students were enrolled and 1,040 were girls. The convenient time schedule, community contributions to the school centers,

and recruitment and training of local teachers were key ingredients to the success of this program (See Box 6).

A similar program was launched in Bangladesh in 1983. There, the Bangladesh Rural Advancement Committee established 23 pilot schools in selected rural areas that offered the first three years of primary education. School sessions ran two and a half hours a day, 271 days a year. Parents, on the basis of their work schedules, decided whether the school in their community would be open in the early morning or late afternoon. Sixty-seven percent of the teachers were female. The demand for this program was so great that parents tried to enroll "tiny tots who could barely hop on one foot" (Mallon 1989). So great was the enthusiasm that by 1988, 731 centers were operating and 21,903 children were enrolled. So successful was the program in attracting girls that they comprised 63 percent of the enrollment, less than one percent dropped out, and 83 percent went on to continue their education at government primary schools (Begum and others 1988).

Box 6. Night School for Nine Year Olds: Nonformal Education in Maharashtra, India

In 1978, only 63.5 percent of India's girls aged six to eleven, were in school compared to 97.3 percent of the boys. The proportion of girls in the upper primary grades was less than half that of boys (24.5% girls; 48.7% boys). Most of the children either did not enter school or dropped out soon after entering. They came from poor families where they shouldered burdensome household chores or worked outside the home to add to the family income. They did not have time for a six hour day school. A further problem was India's single-point school entry system, whereby a child could enter school only at Grade 1, even if s/he was eight or nine years old. Compelled to mingle with a younger lot, older children felt uncomfortable and left. The insistence on single-point entry and full time attendance has been "a big hurdle in universalizing primary education for children from poor rural families, who constitute about 70 percent of the age group concerned. Of these, two-thirds to three fourths are girls". A nonformal education project, designed by The Indian Institute of Education, discovered that when classes were scheduled at night, after chores were completed, preadolescent girls would go to school, even if it meant challenging ghosts and man-eating tigers.

The project, supported by central and state governments, and the local authority of the Pune District, began in November of 1979. Eighty-six classrooms, provided by the communities, were established in seventeen villages. Enrollment was restricted to illiterate children from nine to fourteen years of age. Classes, limited to twenty students, were ungraded and based on the principle of mastery learning. They were scheduled 300 days a year from 7:00 P.M.-9:00 P.M. To build linkages with the community, teachers were recruited from the villages or hamlets where the classes were located. They were paid a small stipend of 2,000 rupees ($250) a year. Sixty-four men and twenty-four women, most from the farming caste, with some secondary education, were trained by members of the project team. The men teachers were called "Bhau" (elder brother); women teachers were "Tai" (elder sister). The nomenclature was decided upon by teachers, community leaders and project officers because it underscored the responsibility of the educated rural youth to pass down education to the next generation. During the week long training sessions, emphasis was placed on preparing and using teacher/learning materials that would be relevant to rural life, and also encourage peer-group teaching. Annual exams were replaced by an evaluation "fair" called Bal Jatra. Teachers and children from all project classes met in a central village, where, for half the day, they played games, sang, danced and listened to stories; the latter half of the day they read, calculated numbers, told stories, and answered a quiz.

In January of 1981, among the 1,431 enrolled students, 1,040 were girls. A year later, 196 girls and 86 boys had dropped out of the project, a ratio far lower than the usual 50 to 70 percent drop out rate in Class 1. Girls attendance was much higher than expected. To understand why girls attended regularly, project staff interviewed the girls and their parents. Both said that attending school would help the girls learn to keep accounts, to write and read letters, to manage daily transactions; learning would make them "wise." Parents added that the girls could marry an educated young man. Parents and daughters agreed that the most convenient time for class was in the evening after the girls had finished their day's work.

Source: Naik (1982).

Raising the Benefits

The cost of schooling is one factor that parents consider when making their schooling decisions, and most past efforts to raise female enrollment have focused on lowering schooling costs. Strategies that raise the benefits to females' education can be used as alternatives or complements to cost reduction strategies, however few past efforts have targeted this objective. Yet, if parents do not perceive the productivity enhancing effects of education on non-market work, in the eyes of many parents, girls may benefit less from education than boys. And, girls may in fact gain less from their education if they achieve less than boys when in school, and if they study in areas that do not facilitate employment or earn them a reasonable income. The lower benefits that derive from these conditions have led to recommendations that education and information campaigns should be used to advertise the benefits of education, and that education could yield larger benefits if schools provided meals and gender-free textbooks, and if girls and women were trained for occupations that facilitate their employment and earn them a reasonable income.

Educating the community. From the parent's perspective, girls may benefit less from education than boys. Where girls are expected to become mothers and wives and work on the family farm, time spent in school is time taken away from work and from learning skills considered relevant to these roles. In Somalia, for example, mothers are committed to training their daughters to perform all household and domestic activities at an early age (USAID 1989). School will not teach them how to dry dung sticks for fuel or grind spices for cooking. Similarly, parents in villages of Mali are not convinced that schooling will help girls become better farmers. The few parents who send their daughters to school do so because schooling is obligatory, not because they perceive any life advantages for their daughters (World Bank 1983b).

Education and information campaigns have been successful in raising the demand for health and family planning services in developing countries,[14] but they are rarely used to promote girls' education. Mali and Morocco are exceptions. In Mali, media campaigns advertise the value of education as an investment (World Bank 1989d). In Morocco, materials are being developed to promote girls' education; they will be distributed by extension workers who visit rural communities to encourage local participation in the construction and maintenance of primary schools (World Bank 1989).

Providing school feeding programs. Even if parents were aware of the many non-market returns to girls' education, girls may gain less from education than boys. In some countries, females are more likely than males to be undernourished or malnourished. In the Matlab thana of rural Bangladesh, for example, malnutrition rates are substantially higher among female children and mortality rates for girls exceed boys' rates by an appalling 50 percent (D'Souza and Chen 1980).[15] Girls are also more likely to be malnourished than boys in Pakistan, India and Guatemala, and a study of 94 Latin American countries showed that girls aged 0 to 4 met a significantly lower percentage of their age/weight measurements than boys of the same age (Schofield 1979, Safilios-Rothschild 1979).[16]

Iodine and iron deficiencies are also more prevalent among women. A review of gender differences in iodine deficiency showed that in 50 of 53

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[14] In Egypt, for example, through a campaign launched by the Ministry of Health in 1984, television, radio and newspapers have played a decisive role in boosting public understanding of, and demand for, oral rehydration salts and vaccinations. Today, knowledge of oral rehydration therapy is almost universal among mothers, and over 80 percent of Egypt's young children are immunized against the six main childhood diseases (UNICEF 1990).

[15] Mortality rates are for children aged one to four. In-depth dietary surveys also show that males consume more calories and protein than females of all ages even when nutrient requirements that vary by body weight, pregnancy, lactation, and physical activity are considered (Chen and others 1980).

[16] In contrast, girls do not appear to be at a disadvantage vis-a-vis males in anthropometric status in the majority of Sub-Saharan Africa (Svedberg 1990).

paired gender measurements from 17 countries the incidence of goiter was greater among females (Simon and others 1990). Data on hemoglobin concentration also indicated that least half of all women, and sometimes the entire female population, is anemic (Levin 1986).

The evidence is clear that such nutritional deficiencies place children at risk in school. Malnourished children are less active, less attentive, less motivated, and less responsive than their better nourished counterparts. They perform significantly lower on assessments of achievement, IQ, psychomotor skills, and social-personal behavior. They are absent from school and repeat grades more often. Hungry and iron deficient children have shorter attention spans; iodine deficient children are slower at processing information and suffer from impaired visual-perceptual and motor coordination (Pollitt 1990).[17/] Given this evidence, school feeding programs (SFPs) are often advocated as an means to reduce absenteeism, and improve children's ability to benefit from instruction by removing hunger or nutritional deficiencies. They are also often suggested as an incentive to raise girls' enrollment and attendance by offsetting some of the costs of attending school.

Despite the rational underpinnings of SFPs, most evaluations in both developed and developing countries have been unsuccessful at establishing a relationship between school meals and school enrollment, attendance, retention, or achievement.[18/] Although a review of SFPs is beyond the scope of this paper, reviews by Levinger (1984), Pollitt (1990) and Halpern and Meyers (1985) point to two major reasons for the inability of past research to establish firm conclusions about the effectiveness of SFPs.

17/ Also, severe iodine deficiency is often accompanied by cretinism and deaf mutism; chronic vitamin A deficiency impairs vision, often causing blindness, preventing afflicted children from attending formal schools.

18/ See Powell and others 1983; Halpern and Meyers 1985; Halpern 1986; Levinger 1983, 1984; and Pollitt 1990. One exception is a school breakfast program in Jamaica where 115 undernourished school children with a mean age of 12.5 years were given a government school meal at the beginning of the day. Breakfast had no effect on the children's weight, height, or reading and spelling scores but it improved arithmetic scores and attendance.

First, most evaluations of SFPs are methodologically flawed, having been conducted on pre-existing non-experimental programs which precludes adequate control of confounding factors. Second, students' health and nutritional status, the program's design, and the social, economic and school environments all interact in producing the observed outcomes. An intellectually stimulating environment can compensate for the effects of hunger and malnutrition, and greater intellectual development can be achieved when diet as well as the psychological and social environments are enriched (Levinger 1984). An unstimulating school environment may also negate the educational benefits of SFPs. If so, school meals will accomplish little unless accompanied by improvements in the quality of education (Halpern and Meyers 1985). The design of the SFP may also mitigate the benefits of school meals and weaken their potential to influence parents' schooling decisions if SFPs are inappropriately designed for the community. Levinger, for example, notes that in poor communities where the opportunity costs of schooling are high and the benefits unclear, SFPs may be more effective in raising enrollment when food rations are large enough to be viewed by parents as a significant income transfer. Conversely, in communities where opportunity costs are not high and where education has a clear economic benefit, SFPs are likely to have little impact on attendance or enrollment. Complimentary nutrition education, and school-based micronutrient supplementation and deworming programs can also boost the effectiveness of SFPs (World Bank 1991).

Although research has not successfully established a relationship between SFPs and schooling, enough is known about the relationship between the childs' health and nutritional status his/her attendance in school and ability to learn to warrant appropriately designed experimental programs to boost girls' attendance. To be effective, however, SFPs should be designed within a broader intervention to address school and environmental factors that also contribute to learning deficiencies.

Training for non-traditional occupations. Yet, even if the health and nutritional needs of all children were met, girls are still likely to gain less from their education than boys. In the labor market, females face wage and employment discrimination which conspire to limit the economic benefit

that they can expect to receive from their education. Girls' career choices also lead them toward educational programs that are unlikely to equip them to substantially increase their earnings. To facilitate their access to well-paid occupations, earmarking secondary and postsecondary scholarships for girls in areas that prepare them for occupations in growth sectors of the economy is a strategy that has been successful in many industrialized countries. A second option is to provide occupational/vocational training directly linked to employment with a strong recruitment and guidance component. Past experiences suggest that vocational training programs without these characteristics are unlikely to attract females.[19/]

The Post-Primary Technical Schools Programme established in 1975 in Dar es Salaam typifies an unsuccessful occupational training program. Spurred by concern with an increasing number of dependent unemployed primary school girls, the government of Tanzania established twelve training centers on the premises of existing primary schools. For girls, the centers offered home economics subjects such as cooking, housecraft, needlework, child care and laundry. The program did not guarantee employment, and as a result, the centers were greatly underutilized, enrolling only 37 girls compared with their capacity to enroll 240 (U.N. Economic Commission for Africa 1984).

In Chile, the absence of a recruitment campaign and guidance undermined an otherwise sound six-year experimental pilot vocational program to train middle-level technicians. The pilot program, which began in 1968, was introduced into two schools in Santiago -- La Cisterna, a girls' technical school and La Renca, a mechanics training school for boys. Both schools were made co-educational and course offerings were broadened. At La Cisterna, chemistry, computer programming,[20/] textiles, and bilingual secretarial training were added to the curriculum; chemistry and electronics were added at La Renca. Close cooperation between pilot schools and industry was also established for curriculum development, practical training and job placement.

19/ A detailed review of vocational education programs is outside the scope of this paper. For a review see King and Hill (forthcoming).

20/ In 1974, computer programming changed to data processing.

The results of the pilot were decidedly mediocre. Although the programs did expand girls' access to training, boys enrollment in all programs increased faster than girls' enrollment. By 1973, the chemistry program at la Renca enrolled 88 girls and 214 boys, compared with 47 girls and 37 boys in 1969. Over the same period, boys' enrollment in electronics grew from 87 to 499, while girls' enrollment increased from 9 to only 42. Similar patterns were observed at La Cisterna where the majority of girls continued to enroll in secretarial courses. Project evaluators attributed the low female enrollment to the lack of guidance counseling in primary schools and the absence of recruitment efforts (Ferreri 19[illegible], Pilain 1975).

In contrast to this program, recruitment and counseling strategies were key ingredients to the success of the Industrial and Commercial training program in Morocco, which encouraged women to compete with men for admission into training programs which they had been reluctant to attend previously (See Box 7).

Box 7. Morocco's Industrial and Commercial Job Training Program

The composition of the labor force in Morocco is changing as many women, driven by economic necessity, enter the labor market in search of paid work. In response to a 75 percent increase in the number of women looking for work, a 20 percent female unemployment rate, and severe shortages of trained technicians and skilled industrial workers, Morocco's Office of Technical Training and Job Development (OFPPT) initiated the Industrial and Commercial Job Training Program for Women.

The five-year program began in 1979 in Casablanca and Fez, following a review of nonformal education programs for women and a study of womens' training needs and resources. Young women with at least 12 years of education were recruited to the commercial centers for training in accounting and secretarial skills; those with 9 years of schooling were recruited to the industrial centers for training in drafting, electricity, and electronics, courses which they had been reluctant to attend in the past.

To gain admission into the programs, women competed with men on the national entrance examination, but women were sometimes given priority for admission into certain specializations. OFPPT made special efforts to inform women about the examination and to encourage them to apply. State owned radio and television stations, which advertised the programs and examination schedule, specifically informed the public that women were eligible and should be encouraged to apply. Notifications were also published in newspapers and distributed to all secondary schools.

OFPPT provided counseling for women to guide them into areas that best suited their aptitudes and preferences and, to facilitate employment after graduation, OFPTT was to establish a formal job placement service. Although the formal service never made it off the drawing board, an informal mechanism was introduced. OFPPT's informal strategy consisted of convincing employers to accept women for their mandatory two month apprenticeship. The informal mechanism worked well. Typically, employers were pleased with the apprentices, offered them permanent jobs, and requested more female apprentices the following year.

A 1983 evaluation showed that female enrollment in the project centers had reached their targets. Enrollment increased from 0 to 99 in the industrial program, from 20 to 51 in construction, and from 30 to 144 in commerce. Dropout rates were comparable for males and females and employment rates were high. Seventy percent of women graduates were placed in jobs, a rate much higher than for women with the same level of formal education but no vocational skills training. But, best of all, graduates were earning as much, if not more, than they could have earned in the public sector, where salaries are based on years of formal education and attainment of the baccalaureate diploma, which none of them had.

Sources: Lycette 1985, 1986, USAID 1978, 1983.

Ensuring gender-neutral instruction. It is often argued that girls' decisions to enter low-paid, traditionally female occupations are reinforced by teachers who maintain stereotypical notions of girls' poor performance in science, math and other "non-traditional" areas and by textbooks that depict women in low-mobility, low-paid occupations (Finn and others 1979, Whyte

1984). These stereotypes, the argument goes, dampen girls' aspirations and, therefore, discourage their attendance and achievement. Such observations have led to the conclusion that educational programs would yield larger benefits for girls if teachers were made aware of the stereotypes they hold, if they modified their interactions accordingly, and if gender-neutral textbooks were developed.

There is no empirical evidence from developing countries to support or refute the hypothesis that teachers' interactions with female students and gender bias in textbook content discourage girls' attendance or achievement, and we are unaware of efforts to sensitize teachers to long held stereotypes or to modify their behavior in the classroom. This notwithstanding, several countries have initiated large-scale projects to make textbooks gender-neutral and to broaden the roles in which women and girls are depicted. Bangladesh, for example, is revamping textbooks to show women in roles other than the traditional roles of mother and housewife. Kenya (Herz 1989), China, and India have also implemented similar programs, but no information on their impact is available (UNESCO 1985c).

If the argument is correct, such textbook changes should make a difference. But relative to other investment options, the cost-effectiveness of revamping textbooks to raise female educational attainment and achievement is questionable, particularly in countries where female's status is low and where textbooks of any kind are in short supply. As countries continue to develop curricula and instructional materials more sensitive to their circumstances, it is reasonable to expect that they will simultaneously adjust their portrayals of girls and women. But in the short run, simply improving the quality of education for all children by putting books into the hands of children and teaching materials into the hands of teachers may accomplish much more. Abundant research evidence shows that children with textbooks learn more than those without books (Heyneman and others 1978; Fuller 1985), and that children with higher levels of learning achievement stay in school longer. Moreover, textbooks may benefit girls more than boys if girls receive less of the teachers' time and less instructional support at home, and if their outside work necessitates more frequent absences. Whether girls do in

fact benefit more than boys from improved textbook availability has not been well-researched. One study on Peru, however, did find that the availability of textbooks had a larger positive impact on the educational attainment girls than it did on boys,[21] suggesting that parents decisions to school their daughters may be more sensitive to the quality of education provided than are their decisions to educate their sons.

Improving first the overall quality of education may be the most productive investment option to attract and retain girls in schools. Investments in subsidizing girls to attend low quality schools or establishing alternative low quality educational programs, as illustrated by Pakistan's mosque school effort, are unlikely to attract or retain girls. Moreover, since girls are more likely to drop out than boys, they should benefit disproportionately from quality improvements.

21/ The availability of reading or math books was associated with 0.5 years additional education for males and 0.7 years for females (King and Bellew 1989).

Alleviating poverty

No discussion of female education in developing countries is complete if it does not address the role poverty plays in undermining efforts to improve it. Absolute poverty is a condition of many children, especially in India, Pakistan and Bangladesh. These three countries alone account for 40 percent of child deaths in the world, 45 percent of the world's malnourished children, 35 percent of children out of school, and over 50 percent of children living in absolute poverty (UNICEF 1990). Simply lowering the costs of education or raising its benefits will probably do little to rescue them. Their survival depends on the education of their parents and on their parents' ability to support them. But often, income needs prevent women from participating in the myriad of literacy, family planning, health and nutrition, and skill training programs that aim to improve their living standards.[22/] Attracting women to these programs demands efforts even greater than those required to attract their daughters to school. It requires an immediate opportunity to increase their income. Poverty reduction programs in Bangladesh illustrate this.[23/]

In the aftermath of the Civil War and the famine of 1974, Bangladesh faced problems of crisis proportions. Families were destitute, literacy was low, and the population was growing at an alarming 3 percent a year. In response, an integrated and multi-targeted Women's Program was launched in 1975 to raise the incomes of rural mothers and thereby motivate them to voluntarily accept family planning, acquire reading and writing skills, and

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22/ A discussion of poverty alleviation programs is outside the scope of this paper. Readers are directed to The World Development Report 1990 for a review of these programs.

23/ Descriptions of these programs were drawn from Gerard, Islam and Jahan 1977, Rahim and Mannan 1982, World Bank 1985b, World Bank 1986a, World Bank 1989e, Canadian International Development Agency 1985, UNICEF 1977, Huq and Mahtab 1978, Rahman 1977, Alauddin and Faruqee 1983.

learn more about health, nutrition, maternal and child care.[24] The program had three major components.

One component - the vocational training centers - targeted war-affected mothers and children. The centers taught women weaving, tailoring, embroidery, knitting, jute craft, and food preparation skills. They provided free day-care, education, food and medical attention for the womens' children, and a "scholarship" of 2 to 2.5 Takas a day for attending. When the women completed the program, they were invited to work in affiliated production centers. The second component - the Womens' Cooperatives - increased the earning capacity of agricultural laborers by exploiting agro-based skills that women presumably already had. The cooperatives offered loans, training, and nutrition and literacy classes. Completing the program were The Mother's Centers which targeted wives of landless laborers.[25] The centers offered programs in health, literacy, home economics, family planning, and recreation. Classes were held four to five afternoons a week and programs were from six months to one year in duration. To attract women, some centers also offered skill training.

The outcomes of the three programs have been positive.[26] Several evaluations reported that a majority of participants had raised their incomes

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[24] At the same time, there were numerous other womens' projects such as cooperatives, cottage industries, Food for Work, and a variety of income generating training projects run by government and NGOS and supported by many international organizations including OXFAM, UNICEF, Canadian CIDA, the World Bank, NORAD, and USAID, to name just a few.

[25] Some of the Women's Centers effectively appealed to low-middle and middle-income women, however.

[26] Unsuccessful centers were those where women could not substantially increase their earnings. This occurred where the demand for the product was slack, where quality control was weak, where no marketing mechanisms were available to market the products, and where no income-earning skill was offered. In some of the Mothers' Centers for example, training was limited to producing jute crafts which the slackened internal and external markets could not absorb. These centers were attractive to middle-class women with leisure time to spare for educational and recreational activities.

and that family planning acceptance rates among participants were almost double the national average.[27] Due to the indisputable outcomes, the programs continue to expand. There are currently 100 production units in 20 upazilas which employ 11,000 women, 1,500 Womens' Cooperatives in 100 upazilas with 60,000 members, and 1,600 Mother's Centers in 40 upazilas with 40,000 members. Cumulatively, the programs have recruited an estimated 230,000 family planning acceptors.[28]

Bangladesh's womens' programs demonstrate that earning an income is necessary for poor women to participate in educational programs. The money earned also boosts their self-confidence and gives them greater decision making authority at home and more control over reproductive decisions. An Indian woman, for example, when asked whether her participation in an association of vendors had any effect on the husband's attitude toward her, responded: "Yes, my husband doesn't beat me any more and he can't leave me, because I'm the one who brings the loan from the bank." (UNESCO 1976 p.5)

CONCLUSION

We set out to identify approaches undertaken by various groups to relax, circumvent, or eliminate barriers to girls' and women's education in developing countries, and to investigate the effectiveness of these efforts. The investigation was limited and shaped by information on, and suggested strategies to raise, female participation in educational programs contained in education-related documents and literature reviews on barriers to females' education (See footnote 1). As such, it omitted potential strategies to expand access or raise the demand for females' education about which no information was accessible. Three such approaches, for example, are eliminating school policies that barr the enrollment of pregnant or married girls, encouraging girls to delay pregnancy and marriage, and instituting

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[27] A UN study also showed a 48 percent reduction in fertility among members of the Mothers Centers.

[28] The estimates by program are: Vocational Training Centers - 112,000, Women's Cooperatives - 20,000, and Mother's Centers - 98,000.

hiring quotas to counteract wage and employment discrimination in the labor market.

The efforts we did locate have two striking and perhaps interrelaed characteristics. First, most efforts began and ended as pilot projects with short-term funding and implementation support provided by donors and non-governmental organizations (NGOs). They have rarely been an integral part of national education development plans and have rarely resulted from national education policy-making and planning processes. Second, although we located abundant materials related to this review, the dearth of evaluations was striking and the absence of any cost information was even more discouraging. Given this, few strong conclusions can be drawn about the effectiveness, particularly the cost-effectiveness, of past strategies to raise girls' and women's attendance in educational programs.

Notwithstanding the absence of sound evaluations, this review does show that some strategies have been effective; others have failed. Some have yielded mixed results, and for others, no evidence exists to support or contradict their effectiveness (See Table 3). Parents have responded positively to monetary incentives in the form of scholarships and to culturally appropriate facilities and female teachers where cultural norms restrict females' presence in public places and their interaction with males. Alternative or safety net schools have also been attractive to girls who missed the chance to attend regular primary school and for those whose work schedules conflict with the regular school day. Raising the benefits of education by improving school quality, as well as training women for occupations in growth sectors of the economy when combined with strong recruitment and placement efforts also appear to be promising strategies. In contrast, distributing free uniforms, and vocational training that is not directly linked to employment and where recruitment is weak, have not yielded the expected results.

Table 3
A Summary of the Effectiveness of Strategies to Improve Girls' and Women's Education
Based on Country Experiences

	Effective	Not Effective	Insufficient Evidence to Draw a Conclusion
Objective:			
Lower the costs of education	Culturally appropriate facilities Female teachers Scholarships Alternative (morning or evening) schools	Distributing free uniforms	Programmed instruction Home production technologies Day care School feeding programs
Raise the benefits of education	Vocational training for growth sectors of the economy when directly linked to employment and with strong recruitment	Vocational training in non-growth sectors of the economy, not directly linked to employment and no recruitment effort	Revamping curricula and books to introduce broader roles for females Information campaigns

There is, however, little information on which to judge the effectiveness of programmed learning, revamping curricula and textbooks to introduce broader roles for females, home technologies, day care, school feeding programs, and information campaigns. There has not been sufficient experimentation with these strategies to identify the circumstances under which they may be effective. Similarly, simply expanding school places is often inadequate when the cultural and monetary costs are too high or the benefits to few. Understanding the conditions under which expanding opportunities for females may increase levels of attainment and the strategies that need to accompany a supply-side approach merits further research and experimentation.

Research is also required on the importance parents and girls place on the quality of education when making their schooling decisions. Low quality educational programs may not only undermine otherwise sound strategies, as illustrated by Pakistan's mosque school program, but by raising the quality of programs already out there, fewer special efforts may be required and available resources can be more effectively targeted toward difficult subpopulations.

The well-established benefits of educating females, the differences in contexts across countries, and the paucity of information on best strategies to raise female enrollment provide a clear justification for special efforts in research and experimentation. In this regard, several tasks lie ahead for governments, education policymakers, and development specialists seeking to improve female education. Developing an effective approach requires setting goals, identifying target groups by examining current patterns of female enrollment by geographic, demographic and income groups, determining which barriers are key to specific settings or subpopulations, developing sustainable, cost-effective strategies, determining the level of investment necessary to attain specified goals, and ensuring financial support, monitoring programs, and evaluating their outcomes. As such, improving female education should be a topic of national education policy concern, one that is integrated into education development plans to ensure adequate planning, monitoring, evaluation, and financial support.

Developing countries, however, often lack the resources to maintain information systems with gender-specific data disaggregated by geographic and demographic groups on school enrollment, drop-out, repetition, and achievement. Even fewer have the resources to devote to household, school or community surveys to determine parents', girls', and communities' attitudes, perceptions and preferences. Governments, however, can support the exchange of knowledge and experience about information systems, survey design, implementation, and data entry software to reduce the cost of data collection to any one country. There are also other sources of information into which governments can tap. Local organizations that work with women and the poor, for example, usually know a great deal about the communities in which they work. They can be an invaluable source of assistance in guiding policy, identifying target groups, assessing a community's needs and resources, and determining its willingness to undertake specific actions. Ongoing local projects on girls' and women's education are also sources of information on the determinants of female participation and attainment, and on administratively feasible approaches. A systematic evaluation of their performance will greatly improve governments' and donors' capability to design and implement effective programs.

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Appendix Table 1. Percentage Point Differences in Primary Enrollment Rates Between Boys and Girls, 1988 or most recent year

	Low-income					Middle-income				
	UPE	0-4	5-14	15-24	25+	UPE	0-4	5-14	15-24	25+
Africa	Lesotho	Rwanda Tanzania	Kenya Madagascar Malawi Mali Somalia Uganda Zambia	Burkina Faso Burundi Ethiopia Ghana Guinea Liberia Mauritania Mozambique Niger Nigeria Sierra Leone Sudan	Benin Chad C.A.R Gambia Togo Zaire	Angola Botswana Cameroon Gabon Mauritius Zimbabwe			Cote D'Ivoire Senegal	
Asia	China Indonesia Lao Sri Lanka		Afghanistan Bangladesh Bhutan	Pakistan	India Nepal	Malaysia Philippines Thailand				
North Africa & Middle East					Yemen	Iran Jordan Lebanon Syria Tunisia Turkey		Iraq Oman	Algeria Egypt	Morocco Yemen
Latin America			Haiti			Argentina Brazil Chile Colombia Costa Rica Ecuador Honduras Jamaica Mexico Nicaragua Panama Paraguay Peru	El Salvador	Bolivia Guatemala		

Source: UNESCO Statistical Yearbook, 1990

Appendix Table 2. Primary School Dropout Rates, latest year

	Girls	Boys
Low-income	9.6	8.2
Afghanistan	8.1	5.3
Benin	13.3	11.8
Burkina Faso	6.4	6.5
Burundi	2.3	2.2
Central Afr. Rep.	10.1	7.1
Chad	6.9	1.7
Ethiopia	13.2	11.6
Gambia	2.4	0.4
Guinea	13.5	9.1
Guniea-Bissau	23.3	21.1
Haiti	15.2	16.3
Kenya	9.5	8.4
Lesotho	5.3	11.0
Madagascar	14.9	16.0
Malawi	14.9	11.6
Mali	12.2	10.8
Mauritania	3.9	4.5
Mozambique	22.0	17.9
Niger	4.9	4.7
Rwanda	10.2	8.4
Sri Lanka	1.5	1.5
Tanzania	4.7	5.0
Togo	10.8	6.0
Uganda	6.2	2.9
Zaire	8.8	7.9
Zambia	5.8	2.6

Appendix Table 2. Primary School Dropout Rates (continued)

	Girls	Boys
Middle-income	6.0	5.9
Lower-middle-income	6.2	6.3
Senegal	4.5	1.8
Cameroon	5.1	4.3
Botswana	1.3	3.1
Mauritius	0.8	0.7
Zimbabwe	5.9	4.0
Congo	5.7	9.3
Cote D'Ivoire	6.5	4.1
Philippines	6.6	6.7
Jordan	4.9	1.9
Morocco	9.5	9.1
Syria	2.6	2.3
Yemen	13.3	10.5
Tunisia	4.8	3.6
Turkey	0.7	0.6
Colombia	10.1	10.6
Panama	3.6	3.9
Jamaica	2.5	6.0
El Salvador	11.9	10.7
Paraguay	10.0	10.0
Brazil	1.6	2.6
Costa Rica	3.9	4.3
Honduras	11.9	13.9
Ecuador	7.7	8.1
Nicaragua	13.8	17.9
Upper-middle-income	4.4	3.7
Gabon	10.7	9.0
Algeria	2.8	1.9
Iran	2.9	2.3
Iraq	10.8	5.5
Uruguay	1.1	1.7
All countries	7.7	7.3
Africa	8.6	7.3
Asia	4.0	4.1
North Africa & Middle East	6.0	4.3
Latin America	7.8	8.8

Source: Data provided by UNESCO, 1990.

Appendix Table 2. Percentage Point Differences in Secondary Enrollment Rates Between Boys and Girls, 1988 or most recent year

	Low-income					Middle-income				
	+	0-4	5-14	15-25	25+	+	0-4	5-14	15-25	25+
Africa	Lesotho	Malawi Tanzania Mozambique Madagascar Burundi Rwanda Burkina	C.A.R. Zambia Benin Sierra Leone Niger Somalia Ethiopia Mauritania Sudan Uganda Chad Kenya Guinea Mali	Togo Ghana Zaire	Guinea Bissau	Botswana	Mauritius	Cote D'Ivoire Cameroon Zimbabwe Senegal		
Asia	Sri Lanka	Vietnam	China Bangladesh Indonesia Bhutan	Nepal India Pakistan			Philippines Malaysia	Papua N.G.		
North Africa & Middle East			Afghanistan	Yemen,Dem.			Lebanon	Tunisia Morocco Jordan	Turkey Syria Egypt Iraq Algeria Oman Iran	
Latin America		Haiti				Nicaragua El Salvador Jamaica Costa Rica Honduras Panama Chile Colombia Ecuador Brazil	Mexico Paraguay	Bolivia Peru		

Source: UNESCO Statistical Yearbook, 1990.

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